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to make sure they are not hypotensive, because that is a clear predictor of vasospasm.

Q. Would it be below the standard of care to discharge a patient to go home after they have been diagnosed with a subarachnoid hemorrhage?

A. The question is a little confusing.

Q. Patient comes into the ER, let's just say they're diagnosed with a subarachnoid hemorrhage --

A. You mean that their CT shows --

Q. -- after taking a CT --

A. -- and it shows subarachnoid hemorrhage blood?

Q. Yes.

A. Yes.

Q. Would it be below the standard of care to discharge them home?

A. Correct.

Q. Are the chances of preventing a rebleed greater if the patient's blood pressure and other vital signs are being monitored than if they are not?

A. If their blood pressure -- first of all, you know, blood pressure is not basically

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treated in cases of subarachnoid hemorrhage unless it gets to very high levels, let's say over 220 systolic. So anything under 220 systolic would not be treated.

And so, but in somebody who has a clear evidence, you know, who has a clear subarachnoid hemorrhage, it would -- you know, as I said, they need to be admitted to the hospital, admitted to the neurointensive ICU, and, yeah, their vital signs would have to be rigorously monitored.

Q. Right. And so let me just ask the question a little bit differently.

A patient who is actually being monitored in a neurointensive care unit, wouldn't their chances of rebleeding be less than if they were discharged home?

A. Well, why would somebody who was in a neurointensive care unit -- the question is -- basically, I don't want to put words in your mouth, but are you asking me if there was a misdiagnosis and somebody somehow was -- had a documented imaging study that showed a subarachnoid hemorrhage and somehow they were discharged from the emergency -- it's confusing what you're asking.

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Q. I am saying -- I am just asking if a patient has been diagnosed with a subarachnoid hemorrhage, if their chances for rebleeding are really -- let me ask it a little bit differently. Sorry. Let me back up.

If you have got a patient who has got a subarachnoid bleed and it's been diagnosed, aren't their chances of rebleeding less if they are actually in a neurointensive care unit than if they're discharged home --

A. Of course. Yes.

Q. -- without being monitored?

A. Sure.

Q. Do you know whether or not the majority of patients who present to an emergency department with a subarachnoid hemorrhage are operated on within the first 24 hours?

A. Well, that is a very generalized question. It really is highly dependent on where they present to. As I said, you know, the mortality of subarachnoid hemorrhage under optimum circumstances is about 50 percent. And as I said, about ten percent of subarachnoid hemorrhage cases die before they ever hit the hospital or receive medical care.

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So of those that hit the hospital and are seen, depends where they hit the hospital. If they are in some rural environment where they don't have access to neurosurgery or to, you know, significant technology, no, surgery would be delayed perhaps for days.

And if they present to UCSF or the University of Washington emergency room, surgery probably would be the same day they had -- or to Mass. General Hospital, they probably would have surgery the same day that the aneurysm was diagnosed, if it was surgically accessible, by the way.

Q. Right. Let me follow up on a couple of things you just said.

First of all, did you say that 50 percent of people that have a subarachnoid hemorrhage die?

A. Yes.

Q. Is that --

A. Whether they received optimum treatment or not.

Q. Is that 50 percent of the entire population of people with subarachnoid hemorrhages or is that the people that show up --

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reading from Merritt's Neurology. This is the Tenth Edition. "The most important determinant of outcome after subarachnoid hemorrhage is a patient's neurologic condition on arrival at hospital."

You would disagree with, that is, you would think that is an improper statement, if the patient's neurologic status or condition deteriorates before surgery?

A. Correct. You want me to keep this or do you want this?

Q. We can keep it with the stack. That's fine.

A. Okay.

Q. Just very briefly, what is the Hunt and Hess scale? What is it?

A. It's a scale that was, you know, devised by Hunt and Hess to grade subarachnoid hemorrhage. And it is the following: Grade zero is an asymptomatic aneurysm. Grade 1 is an asymptomatic -- the patient is either asymptomatic or has a mild headache at the time it's diagnosed. Grade 2 is moderate to severe headache, nuchal rigidity, cranial nerve palsy.

Grade 3 is lethargy, confusion, and a

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focal -- mild focal neurologic deficit. Grade 4 is stupor, moderate to severe hemiparesis, early decerebrate rigidity, and grade 5 is deep coma, decerebrate rigidity and they are moribund.

Q. I'm just curious, was it developed to determine outcome or was it -- what was the basis for developing this classification system?

A. It was because early on, Hunt and Hess -- this scale was first devised, I think, in about 1968. And there have been about 30 other scales that have been promulgated over the last 40 years, you know, to grade the severity of subarachnoid hemorrhage.

But the idea is that, there again, can be some unanimity for grading subarachnoid hemorrhage for research studies, so that investigators all over the world who are evaluating this condition, you know, are using the same criteria to grade subarachnoid hemorrhage for research purposes, as well as clinical purposes, because it was clear from early onset that the level of consciousness was an important determinant in determining outcome.

Q. Other factors that may determine outcome, I think you mentioned one, is that

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patients who are younger, that is, tend to do better than patients that are older; is that correct?

A. Correct.

Q. And when we say younger, patients under 50; is that correct?

A. Correct.

Q. All right.

And then patients -- how about patients who are generally healthy, that is, patients that don't have hypertension or, you know, heart disease and that sort of thing, does that play a role?

A. I think the only risk factors for subarachnoid hemorrhage are, I mean, in terms of a worse outcome --

Q. Uh-huh.

A. -- are age, hypertension, and alcoholism, those three factors.

Q. Does gender play a role at all?

A. I don't think so.

Q. Do you think it's true that preoperative treatment of patients with subarachnoid hemorrhages have improved outcomes in the past 15 years?

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A. Yes.

Q. Do you think as treatment in surgical procedures for ruptured aneurysms improve, would you agree it becomes more and more important to institute appropriate therapeutic measures as soon as possible, that is, as soon as possible after a subarachnoid hemorrhage is diagnosed?

A. Yes.

Q. Would you ideally want a patient with a subarachnoid hemorrhage to be treated at a facility that is considered sort of a state-of-the-art kind of evaluation -- well, let's see, kind of state-of-the-art facility for evaluating and treating aneurysms and subarachnoid bleeds?

A. Yes.

MR. GUARINO: That question broke up. I didn't hear it.

MS. McCREADY: I will try to ask it again. We'll take a break in a moment.

I was asking whether or not it would be ideal -- ideally, if a patient has got a subarachnoid bleed, if they would be treated at a facility that is sort of state-of-the-art, I

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guess, a state-of-the-art facility for diagnosis and treatment of aneurysm or subarachnoid bleeds, and the doctor answered yes.

Q. Is that correct?

A. Yes.

MR. GUARINO: Thank you.

MS. McCREADY: Q. Then are you familiar with Harbor View?

A. Yes.

Q. How are you familiar with it?

A. Well, it's just part of U Dub. It's one of their teaching hospitals.

Q. Have you ever worked up there?

A. No.

Q. Are you familiar with it just because you are in the medical community and --

A. Yes.

Q. Have you ever had any patients that have been sent there?

A. I can't accurately recollect.

Q. Do you know whether or not they have a department within their neurosurgical, or a division within their neurosurgical department that is sort of dedicated to cerebral vascular diseases?

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A. I think they have got everything there.

Q. Would you call that a state-of-the-art facility in terms of treating or diagnosing aneurysms?

A. I would call the University of Washington Medical Center a state-of-the-art facility in terms of treating aneurysms. I don't know specifically about Harbor View, I mean, whether their neurovascular setup is at Harbor View or another hospital.

Q. I'm just curious whether or not you have ever consulted on, as a neurologist, on patients at University of Washington or if you have ever had any sort of professional connection with the University of Washington.

A. No, none. Only UCSF.

Q. Do you know -- and UCSF, University of California San Francisco?

A. Correct.

Q. Then do you know any of the neurosurgeons at the University of Washington who actually operate on patients with aneurysms?

A. The only neurosurgeon that I know is the chief of neurosurgery at UCSF, who formerly

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was at U Dub, Mitchell Berger.

Q. Okay. Let's take a break.

THE VIDEOGRAPHER: This is the end of tape No. 1, volume 1, of the deposition of Dr. Richard Rubenstein. The time is 3:09. We are off the record.

(Short recess.)

THE VIDEOGRAPHER: This is the beginning of tape No. 2 in the deposition of Dr. Richard A. Rubenstein. The time is 3:20. We are back on the record.

MS. McCREADY: Thank you.

Q. Dr. Rubenstein, I wanted to turn to Exhibit 1, which is your report. Before we get to the substance of your report, I wanted to ask you if you have received any other records or documents other than what we discussed earlier, and what is listed in your report?

A. Yes, I have.

Q. What have you received?

A. I have received the plaintiff and the defense reports and -- let me just -- hang on for a second.

I think that is it.

Q. So nothing else aside from those

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reports?

A. No.

Q. Have you consulted with any of the other defense experts in this case? That is, have you spoken with any of them?

A. Yes.

Q. Who have you spoken with?

A. Ron Shallat.

Q. When did you speak with Dr. Shallat?

A. Shallat? 11-21-05.

Q. Do you have notes of your discussion with him?

A. No.

Q. Were you referring to, like a billing statement? I'm just curious --

A. Yes, billing statement.

Q. Let me stop on that for a second.

MR. GUARINO: Donna, can I -- the question is not clear to me what your question was in terms of additional information that Dr. Rubenstein received. I think you asked him a couple of questions back about additional records or information that he received. Was that after his opinion?